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1916

THE PLATINOTYPE

**Simplest
Photographic Process
Producing Highest Quality Prints**



1916

WILLIS & CLEMENTS
1814 Chestnut Street
Philadelphia

INSTRUCTIONS
For Using
WILLIS & CLEMENTS'
PLATINOTYPE PAPERS

Known as
ZZ KK, TT, YY, Japine K, Japine Y
and Japine Buff Y
Ivory Black, Smooth and Rough

General Instructions

THE paper is exposed to daylight in contact with the negative in the printing frame, in the usual manner.

The exposed print is then immersed in the developer for from 1 to 4 minutes till fully developed, then cleared in four acid baths containing 1 ounce of Muriatic Acid C. P. to 60 ounces of water (*half* these proportions for *Sepia* prints) and washed for a short time in running water. The whole operation of printing, clearing and washing being complete in about one hour.

N. B.—The Developing Salts are the special salts recommended by Willis & Clements for development, and are sold in $\frac{1}{4}$ lb., $\frac{1}{2}$ lb. and 1 lb. boxes.

The salts are mixed in definite proportions and must all be dissolved at one time, otherwise the tone of the prints will not be uniform.

This Process Yields Really Permanent Prints.

Treatment of the Paper

To secure the most brilliant results the sensitized paper, *before, during* and *after* its exposure to light, must be kept as dry as possible.

It is necessary to place between the sensitized paper and the pads a sheet of thin India-rubber cloth; it is of the *first importance* that the *pads* in contact with the paper be *quite dry*.

The effect of damp is seen in a want of vigor, a general muddiness of tone, and, where the sensitized paper has been exposed to its influence for some days, in the impaired purity of the whites.

Platinotype papers keep for many months if stored in a cool, dry place in the tins in which the paper is supplied.

N. B.—It is very important that the lid of the tin be properly sealed with rubber band or rubber tape to keep out the air.

During the winter, or in high altitudes where the air is dry, the paper will keep for many months without the slightest deterioration, though it should not be stored in a hot room.

In most places American summers are both hot and damp, especially along the coast and in the cities near the great lakes, and in southern latitudes during the wet season. The constant evaporation saturates the air with moisture, causing the hot-damp conditions so destructive to photographic papers; but, even in such climates, Platinotype

papers may be kept safely without danger of spoiling. It is, however, essential that the tube in which the paper is packed be stored in a cold or cool place.

N. B.—If only part of the dozen pieces of paper be taken out of the tube for use at one printing, the balance, with the lump of preservative, should be returned to the tube and a rubber band secured around the lid. During the summer it is advisable to use the whole contents of the tube the same day it is opened.

Exposure to Light

The correct exposure is ascertained by inspection of the paper in a rather weak white light in the usual manner. A little experience will enable the exposure to be determined very accurately.

Platinotype can be printed by the Cooper Hewitt Light (see our circular regarding this method).

As a general rule all parts of the picture except the highest lights should be visible when the exposure is complete.

When examining the prints in the printing frames, care should be taken not to expose them unduly to light. The tinting of the whites of the paper due to *slight* action of light is *not visible until after development*.

Damp paper gives a less visible image in the printing frame than dry paper, hence it may easily be over-exposed.

When printing from *thin negatives* care must be taken not to over-expose. As soon as the image is *faintly visible* it may be considered enough.

Thin, flat negatives give weak prints, whether sepia or black.

Development of Black Prints

The whole contents of the box of developing salts must be dissolved at one time. If this be not done, too large a proportion of one of the ingredients may possibly be used.

Development should be conducted in a feeble white light, similar to that used when cutting up the paper, or by gas light.

It may take place immediately after the print is exposed, or at the end of the day's printing.

Develop by floating the print, exposed side downwards, on the developing solution, or, it may be immersed.

 The Extra Heavy Papers require much longer developing than the thinner papers. They may be given as long as from three to four minutes in the developing bath without injury. All our papers produce better prints from a *full* development.

It is also important that the heavy papers be well cleared in the acid baths. They should have never less than four baths.

During the hot summer days it is not advisable to delay the development of exposed prints. If possible develop *within one hour* after printing.

Either porcelain or agate—preferably porcelain—dishes are necessary to hold the developing solution.

Use good-sized dishes and plenty of solution.

Remarks Upon Development

Always rock the developing bath, or stir the solution between each development ; this will break up any scum which may be left by the previous print.

The Developer for "cold bath" may be warmed. At a temperature of about 120° Fah. under-exposed prints may often be saved. It is usual for a warm Developer to give rather warmer tones. *It is not advisable to use a bath at a lower temperature than 70° nor above 120° Fah.* If a lower temperature be used it tends to give coarse, granular prints ; if too warm a bath be used it is liable to give brown-black tones in place of pure black.

The bottom of the developing dish should be covered with the developing-solution to the depth of *at least* one-half of an inch.

After the prints have been developed pour the solution, without filtering, into a bottle for future use ; it should not be exposed to a strong light. When next developing, the solution will be found to be *nearly clear, but, of course, tinted by previous use.* If this clear solution be not sufficient for use, add to it some of the fresh "stock" developing solution. It is a safe plan always *to keep the "bath solution" up to its original bulk* by this means. Any suspended matter in the bath should be filtered out.

Sometimes, when a *large number* of prints (or *large prints* upon *small bulk* of solution) are developed at *one operation*, the bath will become so loaded with

chemicals derived from the paper that it will no longer give good prints. Such a solution must at once be replaced by a new one. When working on a somewhat large scale it is especially necessary to watch for any change in the quality of the prints; and in case of a doubt a new bath should be tried.

Should prints be grey and granular, one of the following suggestions will be found to be the cause:

1. Insufficient development of the exposed print.
2. Granular and weak negative.
3. Developer too weak, or, possibly, too cold.

Clearing and Washing

To clear the developed prints: these must be washed in a series of baths (not less than four) of a weak solution of Muriatic Acid C. P. This solution is made by mixing one part Muriatic Acid with 60 parts of water. The acid should be colorless. On no account should commercial Muriatic Acid be used. Citric Acid, in the proportion of 1 ounce to 20 ounces of water, may be used. This softens the paper in less degree than does the Muriatic Acid.

As soon as the print has been removed from the developing-dish it must be *immersed face downwards* in the first bath of this acid, contained in a porcelain dish, in which it should remain about five minutes; meanwhile, other prints follow until all are developed. The prints must then be removed to a second acid-bath for about ten minutes; afterwards

to the third bath for about fifteen minutes, and a fourth bath for five minutes. While the prints remain in these acid-baths they should be moved so that the solution has free access to their surfaces.

Don't handle the prints roughly or they will become dented and the surfaces rubbed.

Pure Muriatic Acid must be used.

If Commercial Muriatic Acid be used, the prints will turn yellow.

For each batch of prints fresh acid-baths must be used.

After the prints have passed through the acid-baths, they should be well washed in four changes of water during about a half hour. It is advisable to add a pinch of washing soda to the second washing water to neutralize any acid remaining in the print. Do not use water that contains iron, as it tends to turn paper yellow. Soft water is the best for this purpose.

Drying Platinotype Prints

In establishments where a large number of prints are turned out daily, a good method is to hang the wet prints back to back on wires stretched across the room, using clips to grasp the edges of the two prints.

Possibly a better way is to lay the wet prints between dry blotters, changing them two or three times and placing a weight over a glass plate or flat board on top of the pile.

Instructions for the Use of the Sepia Papers—Not Japine

With a few exceptions the method of carrying out the operations is the same as for the "black" kinds of Platinotype Paper. The *following points* should be attended to:—

The "Sepia" paper is more easily affected by faint light, and, therefore, increased care must be taken when printing.

To develop, dissolve the Sepia Crystals precisely in accordance with directions on the label, and heat to a temperature of 150° to 190° Fah., to obtain the greatest amount of brilliance and the warmest color. Very good results can be obtained by using a cooler developer.

The development of the exposed print is effected by immersing it in the developer heated as above, or it may be floated on the surface of the developer.

The solution is conveniently contained in a flat-bottomed dish, heated by a gas or oil stove.

Greater care must be used with Sepia than with black paper, to avoid exposure to light, both when examining the prints and even in the first acid-bath, otherwise the whites will be discolored.

Discoloration of the whites is due to one of the following causes :—1. Too much exposure of the developing solution to light ; 2. Use of a dish in which the enamel is cracked so as to expose the iron ; 3. Paper kept too long ; 4. Exposure of prints to too much light before or after printing.

The prints are cleared in four acid-baths of 1 part Muriatic Acid C. P. to 120 parts of water.

As the "Sepia" prints, unlike the "black" ones, may be affected by light *when in the acid-bath*, the lights being stained and degraded, the prints at this stage must be manipulated in a *weak* light—gaslight will be quite safe. The prints are damaged by being left too long in the acid-baths.

The subsequent operations are the same as for the other kinds of paper.

Agate dishes, carefully heated, are the most useful for the Sepia developer.

An agate dish which has been used once in developing Sepia prints, should not be afterwards used in developing black toned prints.

The Sepia Papers are now made in KK, TT, YY, Japine K, Y and Buff.

Japine Sepia

This is a matt Sepia paper of beautiful quality, giving exquisite prints possessing a rich sepia tone. The prints are
PURE PLATINUM and Permanent

DIRECTIONS

Printing. The same as for our other Platino-type papers.

Developing. Dissolve the salts precisely in accordance with the directions on the label and heat to a temperature of 150° to 170° Fah. The exposed prints should be immersed in the solution: full development will be effected in about fifteen seconds to half a minute.

Used developers should be strengthened every day with fresh solution and any particles of sediment filtered out. Do not overheat the developer. Use a thermometer.

Clearing the Prints. Pure Muriatic Acid—1 oz.; water—60 ozs. Four baths are necessary: the first, five minutes; the second, ten minutes; and the last two, fifteen minutes each. It takes a little longer to remove the iron from Japine papers. Wash the prints in running water, or several changes of fresh water, during about twenty minutes.

Drying Japine Prints. Japine prints must be dried between clean, dry blotters—changing from two to three times. Blotters may be easily dried by suspending them by clips.

IVORY BLACK

IS A PURE

Platinotype Paper

and worked precisely as our other brands, but it will be noticed that **Ivory Black** paper prints more rapidly and requires a warm developer.

Directions

Print with slightly less visibility of the exposed image and develop at a maximum temperature of 140 deg. A cooler bath may be used, but the prints will be colder in tone. The developing solution once used for this purpose must be kept especially for **IVORY BLACK** papers. Negatives of the strength suitable for our other papers will be found just right for **IVORY BLACK**.

Price List of Pla

BLACK Heavy Smooth (KK) Heavy, Med. Rough (TT)	BLACK Extra Heavy Smooth (YY) EX. H. R. ZZ	SEPI Heavy Smooth Heavy, Med. Ro
DOZ.	DOZ.	
3½ x 3½ . . \$0 35	3½ x 3½ . . \$0 35	3½ x 3½ .
3¼ x 4¼ . . 35	3¼ x 4¼ . . 35	3¼ x 4¼ .
4 x 5 . . 50	4 x 5 . . 55	4 x 5 .
3¼ x 5½ . . 50	3¼ x 5½ . . 55	3¼ x 5½ .
3⅞ x 5½ . . 55	3⅞ x 5½ . . 60	3⅞ x 5½ .
4 x 6 . . 60	4 x 6 . . 65	4 x 6 .
4¼ x 6½ . . 70	4¼ x 6½ . . 75	4¼ x 6½ .
5 x 7 . . 90	5 x 7 . . 90	5 x 7 .
5 x 8 . . 1 05	5 x 8 . . 1 10	5 x 8 .
5½ x 7¾ . . 1 35	5½ x 7¾ . . 1 40	5½ x 7¾ .
6½ x 8½ . . 1 40	6½ x 8½ . . 1 45	6½ x 8½ .
8 x 10 . . 2 05	8 x 10 . . 2 15	8 x 10 .
10 x 12 . . 3 15	10 x 12 . . 3 25	10 x 12 .
10 x 14 . . 3 40	10 x 14 . . 3 55	10 x 14 .
14 x 17 . . 6 75	14 x 17 . . 7 05	14 x 17 .
16 x 20 . . 7 65	16 x 20 . . 7 95	16 x 20 .
20 x 26 . . 12 00	20 x 26 . . 12 50	20 x 26 .
20 x 26 per sht. 1 05	20 x 26 per sht. 1 10	20 x 26 per sht.
Full size roll, 20 in. wide, 26 feet long, equaling 1 dozen sheets 12 00	Full size roll, 20 in. wide, 26 feet long, equaling 1 dozen sheets 12 50	Full size roll, 20 in. wide, 26 feet long, equaling 1 dozen sheets
Half roll, 20 in. wide, 13 ft. long, equal- ing ½ doz. sheets 6 00	Half roll, 20 in. wide 13 ft. long, equal- ing ½ doz. sheets 6 25	Half roll, 20 in. wid 13 ft. long, equa ing ½ doz. sheets

ainotype Papers

SEPIA	
Extra Heavy Smooth (YY)	
Japine K, Japine Y and Japine Buff Y	
Ivory Black, Smooth and Rough	
doz.	doz.
40	3½ x 3½ . . \$0 40
40	3¼ x 4¼ . . 40
55	4 x 5 . . 60
55	3¼ x 5½ . . 60
60	3⅞ x 5½ . . 65
70	4 x 6 . . 75
80	4¼ x 6½ . . 80
95	5 x 7 . . 1 00
1 20	5 x 8 . . 1 25
1 50	5½ x 7¾ . . 1 55
1 60	6½ x 8½ . . 1 65
2 40	8 x 10 . . 2 45
3 55	10 x 12 . . 3 65
3 90	10 x 14 . . 4 00
7 75	14 x 17 . . 8 00
3 70	16 x 20 . . 9 00
3 75	20 x 26 . . 14 25
1 15	20 x 26 per sht. 1 20
Full size roll, 20 in. wide, 26 feet long, equaling 1 dozen sheets 14 25	
Half roll, 20 in. wide, 13 ft. long, equaling ½ doz. sheets 7 15	

DEVELOPERS

Black Developer, for

16 oz. (1 pt.) solution	25c
50 oz. solution	50c
100 oz. "	85c

Sepia Crystals, for

16 oz. solution	25c
50 oz. "	50c
100 oz. "	85c

Japine Sepia Crystals, for

16 oz. solution	25c
48 oz. "	50c
96 oz. "	85c

Sepia Solution

2 oz. solution	15c
4 oz. "	25c
10 oz. "	50c
32 oz. " (1 qt.)	\$1.25
By express only	
64 oz. " (½ gal.)	\$2.25
By express only	

The Cost of Mailing

Platinotype Papers and Developers by Parcel Post varies according to zone or distance.

 All mail packages are shipped at consignee's risk.

Packages may be insured for an additional fee of three cents for which the Government will be responsible up to \$5.00; for five cents up to \$25.00; for ten cents up to \$50.00.

KK or TT Papers

1 to 3 doz. 4 x 5 or $3\frac{7}{8}$ x $5\frac{1}{2}$ or 4 x 6 . . .	1 lb. limit
1 to 2 doz. 5 x 7	1 lb. "
1 doz. $6\frac{1}{2}$ x $8\frac{1}{2}$ or 8 x 10 or 10 x 12 . . .	1 lb. "
1 doz. 10 x 14 or 14 x 17 or 16 x 20 . . .	2 lb. "
1 doz. 20 x 26 or 1 full roll	3 lb. "

YY, ZZ or Japine Papers

1 to 3 doz. 4 x 5 or $3\frac{7}{8}$ x $5\frac{1}{2}$	1 lb. limit
1 to 2 doz. 4 x 6 or 5 x 7	1 lb. "
1 doz. $6\frac{1}{2}$ x $8\frac{1}{2}$ or 8 x 10	1 lb. "
1 doz. 10 x 12 or 10 x 14	2 lb. "
1 doz. 14 x 17 or 16 x 20	3 lb. "
1 doz. 20 x 26 or 1 full roll	4 lb. "

Developers

1 to 3—16 oz. black	1 lb. limit
1 to 2—16 oz. sepia	1 lb. "
1—50 oz. sepia or black	1 lb. "
1—100 oz. " " "	2 lb. "

These weights refer also to Japine Developers

Sepia Solution

1—2 oz. bottle	1 lb. limit
1—4 oz. "	1 lb. "
1—10 oz. "	2 lb. "

The 32 oz. and 64 oz. bottles by Express only

PARCEL POST SCHEDULE

Weight	1st zone		2d zone rate	3d zone rate	4th zone rate	5th zone rate	6th zone rate	7th zone rate	8th zone rate
	Local rate	Zone rate							
1 pound	\$0.05	\$0.05	\$0.05	\$0.06	\$0.07	\$0.08	\$0.09	\$0.11	\$0.12
2 pounds	.06	.06	.06	.08	.11	.14	.17	.21	.24
3 pounds	.06	.07	.07	.10	.15	.20	.25	.31	.36
4 pounds	.07	.08	.08	.12	.19	.26	.33	.41	.48
5 pounds	.07	.09	.09	.14	.23	.32	.41	.51	.60
6 pounds	.08	.10	.10	.16	.27	.38	.49	.61	.72
7 pounds	.08	.11	.11	.18	.31	.44	.57	.71	.84
8 pounds	.09	.12	.12	.20	.35	.50	.65	.81	.96
9 pounds	.09	.13	.13	.22	.39	.56	.73	.91	1.08
10 pounds	.10	.14	.14	.24	.43	.62	.81	1.01	1.20
11 pounds	.10	.15	.15	.26	.47	.68	.89	1.11	1.32
12 pounds	.11	.16	.16	.28	.51	.74	.97	1.21	1.44
13 pounds	.11	.17	.17	.30	.55	.80	1.05	1.31	1.56
14 pounds	.12	.18	.18	.32	.59	.86	1.13	1.41	1.68
15 pounds	.12	.19	.19	.34	.63	.92	1.21	1.51	1.80
16 pounds	.13	.20	.20	.36	.67	.98	1.29	1.61	1.92
17 pounds	.13	.21	.21	.38	.71	1.04	1.37	1.71	2.04
18 pounds	.14	.22	.22	.40	.75	1.10	1.45	1.81	2.16
19 pounds	.14	.23	.23	.42	.79	1.16	1.53	1.91	2.28
20 pounds	.15	.24	.24	.44	.83	1.22	1.61	2.01	2.40
21 pounds	.15	.25	.25	.....	.....	.....	.....	.....	.....
22 pounds	.16	.26	.26	.....	.....	.....	.....	.....	.....
23 pounds	.16	.27	.27	.....	.....	.....	.....	.....	.....
24 pounds	.17	.28	.28	.....	.....	.....	.....	.....	.....
25 pounds	.17	.29	.29	.....	.....	.....	.....	.....	.....
26 pounds	.18	.30	.30	.....	.....	.....	.....	.....	.....
27 pounds	.18	.31	.31	.....	.....	.....	.....	.....	.....
28 pounds	.19	.32	.32	.....	.....	.....	.....	.....	.....
29 pounds	.19	.33	.33	.....	.....	.....	.....	.....	.....
30 pounds	.20	.34	.34	.....	.....	.....	.....	.....	.....
31 pounds	.20	.35	.35	.....	.....	.....	.....	.....	.....
32 pounds	.21	.36	.36	.....	.....	.....	.....	.....	.....
33 pounds	.21	.37	.37	.....	.....	.....	.....	.....	.....
34 pounds	.22	.38	.38	.....	.....	.....	.....	.....	.....
35 pounds	.22	.39	.39	.....	.....	.....	.....	.....	.....
36 pounds	.23	.40	.40	.....	.....	.....	.....	.....	.....
37 pounds	.23	.41	.41	.....	.....	.....	.....	.....	.....
38 pounds	.24	.42	.42	.....	.....	.....	.....	.....	.....
39 pounds	.24	.43	.43	.....	.....	.....	.....	.....	.....
40 pounds	.25	.44	.44	.....	.....	.....	.....	.....	.....
41 pounds	.25	.45	.45	.....	.....	.....	.....	.....	.....
42 pounds	.26	.46	.46	.....	.....	.....	.....	.....	.....
43 pounds	.26	.47	.47	.....	.....	.....	.....	.....	.....
44 pounds	.27	.48	.48	.....	.....	.....	.....	.....	.....
45 pounds	.27	.49	.49	.....	.....	.....	.....	.....	.....
46 pounds	.28	.50	.50	.....	.....	.....	.....	.....	.....
47 pounds	.28	.51	.51	.....	.....	.....	.....	.....	.....
48 pounds	.29	.52	.52	.....	.....	.....	.....	.....	.....
49 pounds	.29	.53	.53	.....	.....	.....	.....	.....	.....
50 pounds	.30	.54	.54	.....	.....	.....	.....	.....	.....

VULCANIZED RUBBER PADS for PRINTING FRAMES

**To Keep Paper Dry during Printing
on Damp Days**

Size	Each	Doz.	Size	Each	Doz.
4 x 5	\$0.05	\$0.50	8 x 10	\$0.11	\$1.20
3 $\frac{7}{8}$ x 5 $\frac{1}{2}$	.05	.50	10 x 12	.16	1.75
5 x 7	.06	.65	11 x 14	.20	2.25
5 x 8	.07	.75	14 x 17	.32	3.70
6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	.08	.85	16 x 20	.45	5.20

STORAGE TUBES

Patented 1906.

No. 1 for Cabinet and smaller sizes	\$1.50
3 " 10 x 12 " " "	2.00
4 " 11 x 14 " " "	2.25
5 " full size sheets	2.50

(Each tube contains one charge fused calcium chloride).

Fused Calcium Chloride, per lb.	75 cents
Thermometer for testing temperature of Developer, each	35 "

N. B.—All goods shipped at Consignee's risk.

*All complaints of photographers
regarding the working of our paper
must be adjusted at headquarters
and not by dealers.*

WILLIS & CLEMENTS

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